

Section 2-8: Proving Angle Relationships

By the end of this lesson, you should be able to answer:

- How do you write proofs involving supplementary and complementary angles?
- How do you write proofs involving congruent and right angles?

Some new postulates and Theorems:

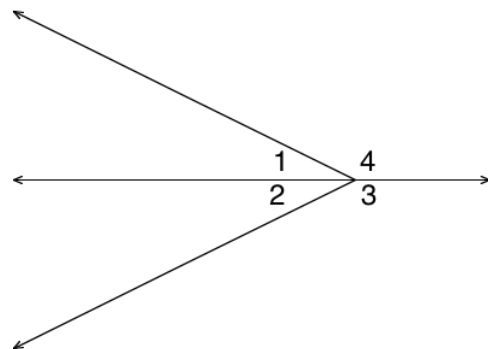
- Protractor Postulate
- Angle Addition Postulate
- Theorem 2.3 - Supplement Theorem
- Theorem 2.4 - Complement Theorem
- Theorem 2.5 - Properties of Angle Congruence
 - Reflexive Property of Congruence
 - Symmetric Property of Congruence
 - Transitive Property of Congruence
- Theorem 2.6 - Congruent Supplements Theorem
- Theorem 2.7 - Congruent Complements Theorem
- Theorem 2.8 - Vertical Angles Theorem
- Right Angle Theorems
 - Theorem 2.9 -
 - Theorem 2.10 -

- Theorem 2.11 -
- Theorem 2.12 -
- Theorem 2.13 -

Example 1: Using a protractor, a construction worker measures that the angle a beam makes with the ceiling is 42° . What is the measure of the angle that the beam makes with the wall?

Example 2: At 4:00 on an analog clock, the angle between the hour and minute hands of a clock is 120° . When the second hand bisects the angle between the hour and minute hands, what are the measures of the angles between the minute and second hands and between the second and the hour hands?

Example 3: In the figure, $\angle 1$ and $\angle 4$ form a linear pair, and $m\angle 3 + m\angle 1 = 180^\circ$. Prove that $\angle 3$ and $\angle 4$ are congruent.



Problem Set:

"COMPASSION FOR OTHERS BEGINS WITH KINDNESS TO OURSELVES." - PEMA CHODRON